

REMARKS

These amendments and remarks are being filed in response to the Office Action dated May 17, 2007. For the following reasons this application should be allowed and the case passed to issue.

No new matter is introduced by this amendment. The amendments to claims 1 and 9 are supported by the specification at page 18, lines 8-25 and Figs. 4A, 4B, and 4C, which clearly teach that there are no gaps in the through holes in the widthwise direction when viewed along the protruding direction. As is clear from Figs. 4A, 4B, and 4C and the accompanying portions of the specification, the through holes are staggered so that there are no gaps in the through holes in the widthwise direction. Thus, a leak path P along the protruding direction can not be a linear path because there are no gaps in the through holes in the widthwise direction. For example, as shown in attached Exhibit 1, when the through holes are staggered to prevent linear electrolyte leakage (Fig. A) there are no gaps in the widthwise direction when viewed along the protruding direction, as illustrated in Fig. c-c', which clearly shows that the staggered through holes in Fig. A are aligned so that there are no gaps in the through holes. Figs. 4A, 4B, and 4C, when viewed along the protruding direction would appear the same as Fig. c-c'. The amendment to claim 3 corrects an informality. The amendments to claims 5 and 11 are supported by claim 1. Support for the amendment to claim 10 is found in Fig. 4A.

Claims 1, 3-5, and 9-13 are pending in this application. Claims 1 and 3-13 are rejected. Claims 1, 3, 5, 9, 10, and 11 have been amended. Claims 6-8 have been canceled in this response. Claim 2 was previously canceled.

Claim Rejections Under 37 C.F.R. § 112

Claim 10 was rejected under 37 C.F.R. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner asserted that “the through-holes arranged to prevent leakage of electrolyte linearly through a location of the thermally welded portion of the laminate film where the terminal electrode lead protrudes” is not supported by the specification as originally filed. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 10 is supported by the specification at page 18, lines 8-25 and Figs. 4A, 4B, and 4C. In particular, Fig. 4A discloses that the through holes are arranged to prevent leakage of electrolyte linearly, as shown by arrow P. In addition, lines 22-25 disclose, “it is made possible to elongate path P through which the electrolytic solution is leaked, and thus, leakage of the electrolytic solution to the outside of the cell can be prevented.”

Claim 3 was rejected under 37 C.F.R. § 112, second paragraph, as being indefinite. The Examiner averred that it was unclear how the ratio of the cross-sectional area was determined. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 3 has been amended to address the asserted informality.

Claim 10 was rejected under 37 C.F.R. § 112, second paragraph, as being indefinite. The Examiner opined that it was not clear what direction linearly refers to. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 10 has been amended to specify the direction.

Applicants submit that the claims fully comport with the requirements of 35 U.S.C. § 112.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 4, and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayama et al. (U.S. Pat. No. 6,225,778) in view of Suzuki et al. (JP 11-345599) and Furukawa (U.S. Pat. No. 5,542,958), and further in view of Shiflet (U.S. Pat. No. 4,233,350). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention as claimed and the cited prior art.

An aspect of the invention, per claim 1, is a laminate packaging flat cell, wherein the laminate packaging flat cells comprise an electrode terminal lead that protrudes from the thermally welded portion in a protruding direction. A plurality of through-holes are provided in the electrode terminal lead in a position thereof contacting the thermally welded portion. The through-holes form first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row are arranged to offset to the through-holes in the second row without a gap in the widthwise direction when viewed along the protruding direction.

Another aspect of the present invention, per claim 9, is a method for manufacturing a laminate packaging flat cell comprising forming a thermally welded portion on an outer periphery of the laminate film. An electrode terminal lead is coupled to the electrode plate protruding from the thermally welded portion in a protruding portion. A plurality of through-holes are provided in the electrode terminal lead in a contact portion with the thermally welded portion. The through-holes form first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction. The through-holes in the first row are arranged to offset to the through-holes in the second row without a gap in the widthwise direction when viewed along the protruding direction.

The combination of Hayama et al., Suzuki et al., Furukawa, and Shiflet do not suggest the claimed laminate packaging flat cell and method for manufacturing a laminate packaging flat cell because neither Hayama et al., Suzuki et al., Furukawa, and Shiflet, whether taken alone, or in combination, suggest that the through-holes form first and second rows along a widthwise direction of the electrode terminal lead that is substantially perpendicular to the protruding direction, and the through-holes in the first row are arranged to offset to the through-holes in the second row without a gap in the widthwise direction when viewed along the protruding direction, as required by claims 1 and 9.

The present invention is further distinguished over the cited references because Furukawa and Shiflet do not disclose **protruding electrode leads** with offset through holes. Furukawa teaches a punched metal sheet to be used as an electrode plate, not a protruding electrode lead. Shiflet teaches a foraminous sheet, not a protruding electrode lead, as required by claims 1 and 9.

Furthermore, while Furukawa and Shiflet disclose metal sheets with staggered through-holes, Furukawa and Shiflet do not suggest that the through-holes in the first row are offset to the through-holes in the second row without a gap in the widthwise direction when viewed along the protruding direction, as required by claims 1 and 9. As shown in attached Exhibit 1, Fig. A shows a through hole arrangement, wherein the through-holes are staggered so that there is no gap between through-holes when viewed along the protruding direction (*see* Fig. c-c'). The through-hole arrangement in Fig. A reads on the arrangement recited in claims 1 and 9. Fig. B, on the other hand, shows a staggered hole arrangement wherein there are gaps between through-holes when viewed along the protruding direction (*see* Fig. d-d'). As shown by the arrows, the through-hole configuration of Fig. A prevents electrolyte leakage **linearly** along the protruding

direction, whereas the configuration of Fig. B does not. The through-hole arrangement required by claims 1 and 9 is not suggested by Furukawa and Shiflet.

Claims 5, 10, and 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayama et al. in view of Suzuki et al. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention as claimed and the cited prior art.

Another aspect of the invention, per claim 10, is a laminate packaging flat cell wherein the electrode terminal lead protrudes from the thermally welded portion in a protruding direction. A plurality of through-holes are provided in the electrode terminal lead in a position thereof contacting the thermally welded portion, and the through-holes are arranged to prevent leakage of electrolyte linearly along the protruding direction through a location of the thermally welded portion of the laminate film where the terminal electrode lead protrudes.

The combination of Hayama et al. and Suzuki et al. do not suggest the claimed laminate packaging flat cell because neither Hayama et al. nor Suzuki et al., alone or in combination, suggest that the through-holes are arranged to **prevent leakage of electrolyte linearly along the protruding direction** through a location of the thermally welded portion of the laminate film where the terminal electrode lead protrudes, as required by claim 10.

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayama et al. in view of Suzuki et al. and Dasgupta et al. (U.S. Pat. No. 6,080,508) and further in view of Furukawa and Shiflet. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 6 has been canceled, therefore, this rejection is moot.

Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hayama et al. in view of Suzuki et al. and Haba (U.S. Pat. No. 6,465,986) and further in view of Furukawa and Shiflet. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claims 7 and 8 have been canceled, therefore, this rejection is moot.

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend and further distinguish the claimed invention. For example, claim 3 further requires a ratio of a cross-sectional area of the through-holes to a cross-sectional area of the electrode terminal lead along the widthwise direction ranges from 20 to 50%. This additional limitation is not suggested by the cited references.

In view of the above amendments and remarks, Applicants submit that this case should be allowed and passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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